

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

| | |
|---|---|
| Date of mailing (day/month/year) 22 May 2000 (22.05.00) | Applicant's or agent's file reference |
| International application No. PCT/AU99/00922 | Priority date (day/month/year) 26 October 1998 (26.10.98) |
| International filing date (day/month/year) 25 October 1999 (25.10.99) | |
| Applicant VUJIC, Milivoj | |

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
17 April 2000 (17.04.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

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|--|--|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland | Authorized officer F. Baechler |
| Facsimile No.: (41-22) 740.14.35 | Telephone No.: (41-22) 338.83.38 |

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A pre-formed insulation module for insulating a process component having opposed longitudinally extending contacting surfaces extending along a length thereof and terminal contacting surfaces at each end thereof comprising:
 - (a) at least one first inner insulation layer being constituted of an insulation material having suitable thermal shock characteristic under cryogenic conditions and having one surface proximate to a surface of a component to be insulated,
 - (b) at least one second outer insulation layer disposed radially outwardly of said inner insulation layer;
 - (c) at least one water vapour barrier layer; and
 - (d) a cladding layer.
2. The module of claim 1 including connection means for connecting said module to a further adjacent such module for insulating said component.
3. The module of claim 2 wherein said connection means are circumferentially and longitudinally disposed relative to a longitudinal axis of said module.
4. The module of claim 3 wherein said circumferentially disposed connection means are formed in the terminal contacting surfaces and the longitudinally disposed connection means are formed in said longitudinally extending surfaces.
5. The module of claim 3 or 4 wherein said connection means are tongue and groove joints, complementary joints being formed at each end of the module.

- (b) at least one second outer insulation layer disposed radially outwardly of said inner insulation layer;
- (c) at least one water vapour barrier layer; and
- (d) a cladding layer.

5 By pre-formed is meant that the insulation module may be manufactured, as a complete insulating article, prior to transfer to, and installation at, a factory site. The factory site may be very remote to the site where installation will take place. Such pre-fabrication of modules, which may be installed directly at the site, saves significant site costs and reduces the
10 cost of the insulation project.

The pre-formed module may be made up of any desired number of insulating layer(s) and any desired number of cladding layer(s) though minimising the number of layers will facilitate accurate fabrication. Each layer is of nature and thickness appropriate to the application.

15 The insulating layers must firstly include, proximate the insulated component, and most advantageously in contact with it, at least one first inner insulation layer of an insulation material, ideally a polymeric foam which retains flexibility and does not embrittle at cryogenic temperatures. Such foam layer accommodates thermal expansion/contraction behaviour of the insulated
20 component and must therefore have appropriate thermal shock characteristics at cryogenic temperatures. Exemplary of such an insulating material is a polyimide foam.

Further second layer(s) of insulating materials of same or different nature from the first layer(s) may be employed radially outwardly from the first
25 insulation layer. Polyisocyanurate resin (PIR), polyurethane or possibly other polymer foams, which may be harder than the first layer, may be employed for such further layers. Five or more such insulation layers may be provided, three or more of which may be formed of a polymeric foam. More advantageously, one or more of the insulation layers may be formed integral
30 to facilitate fabrication. For example, the layers radially outwardly disposed from the inner insulation layer may be integrated to reduce the number of layers of insulation. Typically, the PIR or polyurethane foam layer may be

PATENT COOPERATION TREATY

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

| | | |
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| To: WATERMARK PATENT & TRADEMARK ATTORNEYS Locked Bag 5 HAWTHORN VIC 3122 | | Date of mailing <i>day/month/year</i> - 7 AUG 2000 |
| Applicant's or agent's file reference P15548PCAU | | IMPORTANT NOTIFICATION |
| International application No. PCT/AU99/00922 | International filing date 25 October 1999 | Priority date 26 October 1998 |
| Applicant BAINS HARDING LIMITED | | |

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translations to those Offices.
4. **REMINDER**

 The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

 Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

 For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide

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|--|--|
| Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929 | Authorized officer GARETH COOK Telephone No. (02) 6283 2541 |
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PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

| | | |
|---|---|--|
| Applicant's or agent's file reference P15548PCAU | FOR FURTHER ACTION | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416). |
| International application No. PCT/AU99/00922 | International filing date (<i>day/month/year</i>) 25 October 1999 | Priority Date (<i>day/month/year</i>) 26 October 1998 |
| International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ F16L 59/02, F16L 59/14 | | |
| Applicant BAINS HARDING LIMITED | | |

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|----|---|
| 1. | This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36. |
| 2. | This REPORT consists of a total of 3 sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of 2 sheet(s). |
| 3. | This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application |

| | |
|---|--|
| Date of submission of the demand 17 April 2000 | Date of completion of the report 1 August 2000 |
| Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929 | Authorized Officer GARETH COOK Telephone No. (02) 6283 2541 |

Basis of the report

1. With regard to the elements of the international application:*
- ☐ the international application as originally filed.
- ☒ the description, pages 1-2, 4-18, as originally filed,
pages , filed with the demand,
pages 3, received on 26 July 2000 with the letter of 26 July 2000
- ☒ the claims, pages 20-21, as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages 19, received on 26 July 2000 with the letter of 26 July 2000
- ☒ the drawings, pages 1-8 as originally filed,
pages filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of
2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).
3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, was on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
4. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

| | | |
|-------------------------------|-------------|-----|
| Novelty (N) | Claims 1-13 | YES |
| | Claims | NO |
| Inventive step (IS) | Claims 1-13 | YES |
| | Claims | NO |
| Industrial applicability (IA) | Claims 1-13 | YES |
| | Claims | NO |

2. Citations and explanations (Rule 70.7)Novelty (N) and Inventive Step (IS) claims 1-13

The closest prior art is considered to be GB 2 296 749. This document discloses a cryogenic insulation module with inner and outer insulation layers, and cladding layer, one layer of which acts as a water vapour barrier, and contacting surfaces for contacting adjacent modules. Claim 1 differs from the prior art by having the longitudinal contacting surface being formed at least in part by one of the insulation layers, while the cited document discloses a separate layer being used to form the longitudinal contacting surface, nor would this construction defined in claim 1 be obvious in the light of the cited document. Therefore the subject matter of claim 1 and appended claims 2-13 is novel and is not obvious and meets the requirements of Articles 33(2) and 33(3) of the PCT with regard to novelty and inventive step.

PATENT COOPERATION TREATY

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

WATERMARK
PERTH

PCT RECD 25 JUL 2000

WRITTEN OPINION

(PCT Rule 66)

To:

WATERMARK PATENT & TRADEMARK
ATTORNEYS
4th Floor, Durack Centre
263 Adelaide Terrace
PERTH 6000
W.A.

Date of mailing
(day/month/year)

20 JULY 2000

Applicant's or agent's file reference
P15548PCAU RHB:JAM

REPLY DUE within **ONE MONTH**
from the above date of mailing

International application No.
PCT/AU99/00922

International filing date (day/month/year)
25 October 1999

Priority Date (day/month/year)
26 October 1998

International Patent Classification (IPC) or both national classification and IPC

Int. Cl. ⁷ F16L 59/02, F16L 59/14

Applicant

BAINS HARDING LIMITED et al

1. This written opinion is the **second** drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- | | | |
|------|-------------------------------------|--|
| I | <input checked="" type="checkbox"/> | Basis of the opinion |
| II | <input type="checkbox"/> | Priority |
| III | <input type="checkbox"/> | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| IV | <input type="checkbox"/> | Lack of unity of invention |
| V | <input checked="" type="checkbox"/> | Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| VI | <input type="checkbox"/> | Certain documents cited |
| VII | <input type="checkbox"/> | Certain defects in the international application |
| VIII | <input checked="" type="checkbox"/> | Certain observations on the international application |

3. The applicant is hereby **invited to reply** to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: **26 February 2001**

Name and mailing address of the IPEA/AU

AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
E-mail address: pct@ipaustalia.gov.au
Facsimile No. (02) 6285 3929

Authorized Officer

GARETH COOK
Telephone No. (02) 6283 2541

I. Basis of the opinion

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed.
- ☒ the description, pages 1-2, 4-18, as originally filed,
pages , filed with the demand,
pages 3, received on 29 June 2000 with the letter of 29 June 2000
- ☒ the claims, pages 20-21, as originally filed,
pages , as amended under Article 19,
pages , filed with the demand,
pages 19, received on 29 June 2000 with the letter of 29 June 2000
- ☒ the drawings, pages 1-8, as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------------|-----|
| Novelty (N) | Claims 3-10 | YES |
| | Claims 1-2, 11-13 | NO |
| Inventive step (IS) | Claims 6-10 | YES |
| | Claims 1-5, 11-13 | NO |
| Industrial applicability (IA) | Claims 1-13 | YES |
| | Claims | NO |

2. Citations and explanations

Document considered for novelty and inventive step:

GB 2 296 749

Novelty (N) and Inventive Step (IS) claims 1-5 and 11-13

Claim 1 has been amended to further define that the "contacting surfaces include a portion formed by a portion of at least one of said first inner insulating layer and said second outer insulating layer." However the claim does not indicate if this is referring to the "opposed longitudinally extending contact surfaces" or the "terminal contacting surfaces." GB 2 296 749 discloses in figure 8, described on pages 21-23, that the terminal contacting surfaces 84 are formed from at least a portion of at least one of the insulating layers. At the top of page 23 the specification describes "The opposing faces are not adhesively bonded to one other." (This is in comparison to the embodiment in figure 10 which is described half way down page 24 as having "The end 123 of one or both opposing ends is a layer of foam provided with an adhesive covering for vapour-proof assembly.") Hence the additional feature defined in the claim is disclosed in the citation. The remaining features are disclosed as indicated in the previous Written Opinion. As such claims 1-2 and 11-13 are disclosed by this document and claims 3-5 lack an inventive step in the light of this document.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 1 is not clear. It is not clear if "said contacting surfaces" on the second last line is referring to the "opposed longitudinally extending contacting surfaces," or the "terminal contacting surfaces," or may be referring to either or both. As such the claim is not clear.

PATENT COOPERATION TREATY

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

WATERMARK PATENT & TRADEMARK
ATTORNEYS
Locked Bag 5
HAWTHORN VIC 3122

PCT

WRITTEN OPINION

(PCT Rule 66)

| | | |
|---|--|--|
| Applicant's or agent's file reference P15548PCAU | | Date of mailing (day/month/year) 10 May 2000 |
| International application No. PCT/AU99/00922 | | REPLY DUE within TWO MONTHS from the above date of mailing |
| International filing date (day/month/year) 25 October 1999 | Priority Date (day/month/year) 26 October 1998 | |
| International Patent Classification (IPC) or both national classification and IPC Int. Cl. ⁷ F16L 59/02, 59/14 | | |
| Applicant BAINS HARDING LIMITED et al | | |

1. This written opinion is the **first** drawn by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:

| | | |
|------|-------------------------------------|--|
| I | <input checked="" type="checkbox"/> | Basis of the opinion |
| II | <input type="checkbox"/> | Priority |
| III | <input type="checkbox"/> | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| IV | <input type="checkbox"/> | Lack of unity of invention |
| V | <input checked="" type="checkbox"/> | Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement |
| VI | <input type="checkbox"/> | Certain documents cited |
| VII | <input type="checkbox"/> | Certain defects in the international application |
| VIII | <input checked="" type="checkbox"/> | Certain observations on the international application |
3. The applicant is hereby **invited to reply** to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: **26 February 2001**

| | |
|--|--|
| Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929 | Authorized Officer GARETH COOK Telephone No. (02) 6283 2541 |
|--|--|

Basis of the opinion

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the claims, pages , as originally filed,
 pages , as amended under Article 19,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the sequence listing part of the description:
 pages , as originally filed
 pages , filed with the demand
 pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------------|-----|
| Novelty (N) | Claims 1-2, 11-13 | YES |
| | Claims 3-10 | NO |
| Inventive step (IS) | Claims 1-5, 11-13 | YES |
| | Claims 6-10 | NO |
| Industrial applicability (IA) | Claims 1-13 | YES |
| | Claims | NO |

2. Citations and explanations

Documents considered for novelty and inventive step:

GB 2 296 749

EP 297 612

Derwent Abstract accession Number 97-035858 (DE 29 618 681 U)

Novelty (N) claims 1-2, 11-13

GB 2 296 749 discloses insulation with an inner foam layer 4" which may act as a water vapour barrier (page 10 lines 7-10), outer foam layer 3 and cladding layer 2 which acts as a water vapour barrier. The current specification indicates at page 4 lines 7 to 9 that the cladding may also be the water vapour barrier. The insulation of the citation is stated as being used down to -200°C (page 2 second paragraph) indicating it is suitable for cryogenic use. The specification makes no clear statement as to the scope of "suitable thermal shock characteristics under cryogenic conditions," therefor this statement has been interpreted as 'suitable for cryogenic conditions. As such the features of claim 1 are disclosed.

Claim 2 is disclosed by connection means 7, 8 in figure 1 for adjacent semi-cylindrical modules. Claims 11-13 are also disclosed by the citation.

Inventive Step (IS) claims 3-5

Claims 3-5 are considered not to involve an inventive step in the light of GB 2 296 749. It is considered that the person skilled in the art could arrive at the features of these claims through routine design steps in solving the problem of how to connect longitudinally adjacent insulation modules, especially as there is already disclosed connection means of male/female parts for adjacent semi-cylindrical modules.

Inventive Step (IS) claim 1

EP 297 612 and Derwent Abstract 97-035858 both disclose modules with a single insulating layer, cladding layer and water vapour barrier layer. This differs from claim 1 which defines there being at least two insulating layers. However the specification does make any clear statement as to why there needs to be at least two insulating layers, especially as both layers may be made of the same material. It is therefor not considered essential to the working of the invention as defined by claim 1 that there be at least two insulating layers. Although the inventions of the citation are not for cryogenic conditions, it is considered that the person skilled in the art could readily select materials and through a routine workshop improvement make the citations suitable for cryogenic purposes. As such claim 1 lacks an

Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 1 defines that the first insulation material has a "suitable thermal shock characteristic under cryogenic conditions." It is not clear from the specification what the precise scope of "suitable" encompasses or excludes from the claim.

PATENT COOPERATION TREATY 16
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

REC'D 11 AUG 2000

WIPO

PCT

| | | |
|---|--|---|
| Applicant's or agent's file reference P15548PCAU | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416). | |
| International application No. PCT/AU99/00922 | International filing date (<i>day/month/year</i>) 25 October 1999 | Priority Date (<i>day/month/year</i>) 26 October 1998 |
| International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ F16L 59/02, F16L 59/14 | | |
| Applicant BAINS HARDING LIMITED | | |

| | | | | | | | | | | | | | | | | | |
|------|--|---|---|----|-----------------------------------|-----|---|----|---|---|---|----|--|-----|---|------|--|
| 1. | This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36. | | | | | | | | | | | | | | | | |
| 2. | This REPORT consists of a total of 3 sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of 2 sheet(s). | | | | | | | | | | | | | | | | |
| 3. | This report contains indications relating to the following items: <table border="0"> <tr> <td>I</td> <td><input checked="" type="checkbox"/> Basis of the report</td> </tr> <tr> <td>II</td> <td><input type="checkbox"/> Priority</td> </tr> <tr> <td>III</td> <td><input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td>IV</td> <td><input type="checkbox"/> Lack of unity of invention</td> </tr> <tr> <td>V</td> <td><input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td>VI</td> <td><input type="checkbox"/> Certain documents cited</td> </tr> <tr> <td>VII</td> <td><input type="checkbox"/> Certain defects in the international application</td> </tr> <tr> <td>VIII</td> <td><input type="checkbox"/> Certain observations on the international application</td> </tr> </table> | I | <input checked="" type="checkbox"/> Basis of the report | II | <input type="checkbox"/> Priority | III | <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | IV | <input type="checkbox"/> Lack of unity of invention | V | <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | VI | <input type="checkbox"/> Certain documents cited | VII | <input type="checkbox"/> Certain defects in the international application | VIII | <input type="checkbox"/> Certain observations on the international application |
| I | <input checked="" type="checkbox"/> Basis of the report | | | | | | | | | | | | | | | | |
| II | <input type="checkbox"/> Priority | | | | | | | | | | | | | | | | |
| III | <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | | | | | | | | | | | | | | | | |
| IV | <input type="checkbox"/> Lack of unity of invention | | | | | | | | | | | | | | | | |
| V | <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | |
| VI | <input type="checkbox"/> Certain documents cited | | | | | | | | | | | | | | | | |
| VII | <input type="checkbox"/> Certain defects in the international application | | | | | | | | | | | | | | | | |
| VIII | <input type="checkbox"/> Certain observations on the international application | | | | | | | | | | | | | | | | |

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|---|---|
| Date of submission of the demand 17 April 2000 | Date of completion of the report 1 August 2000 |
| Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929 | Authorized Officer GARETH COOK Telephone No. (02) 6283 2541 |

I. Basis of the report**1. With regard to the elements of the international application:***☐ the international application as originally filed.☒ the description, pages 1-2, 4-18, as originally filed,
pages , filed with the demand,
pages 3, received on 26 July 2000 with the letter of 26 July 2000☒ the claims, pages 20-21, as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages 19, received on 26 July 2000 with the letter of 26 July 2000☒ the drawings, pages 1-8 as originally filed,
pages , filed with the demand,
pages , received on with the letter of☐ the sequence listing part of the description:pages , as originally filed
pages , filed with the demand
pages , received on with the letter of**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, was on the basis of the sequence listing:**☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished**4. ☐ The amendments have resulted in the cancellation of:**☐ the description, pages☐ the claims, Nos.☐ the drawings, sheets/fig.**5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).****

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

| | | |
|-------------------------------|-------------|-----|
| Novelty (N) | Claims 1-13 | YES |
| | Claims | NO |
| Inventive step (IS) | Claims 1-13 | YES |
| | Claims | NO |
| Industrial applicability (IA) | Claims 1-13 | YES |
| | Claims | NO |

2. Citations and explanations (Rule 70.7)Novelty (N) and Inventive Step (IS) claims 1-13

The closest prior art is considered to be GB 2 296 749. This document discloses a cryogenic insulation module with inner and outer insulation layers, and cladding layer, one layer of which acts as a water vapour barrier, and contacting surfaces for contacting adjacent modules. Claim 1 differs from the prior art by having the longitudinal contacting surface being formed at least in part by one of the insulation layers, while the cited document discloses a separate layer being used to form the longitudinal contacting surface, nor would this construction defined in claim 1 be obvious in the light of the cited document. Therefore the subject matter of claim 1 and appended claims 2-13 is novel and is not obvious and meets the requirements of Articles 33(2) and 33(3) of the PCT with regard to novelty and inventive step.